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AUTHOR Hannigan, Jane Anne
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ABSTRACT

Perhaps librarianship is faced with problems even greater than those of education. In fact, its very existence is being challenged. Library schools have consistently tried to educate almost all librarians and information scientists in one mold. This simply cannot be done--it never could. Library educators must give up their rather immature notion that library schools can be all things to all persons; they must accept that this is impossible and select the professional territory in which excellence can be achieved. This paper, part of the library and information science community's response to "A Nation at Risk," includes discussion on: (1) the process and problems of change; (2) criteria for excellence; (3) students and admission; (4) accreditation, certification, and continuing education; (5) faculty; (6) deans; (7) technology; (8) the research environment; (9) cooperative efforts; (10) funding; and (11) curricular planning. Four alternative curricular scenarios in library and information science education are outlined: (1) end-user scenario; (2) process scenario: management of information; (3) product scenario: technical, automated information science; and (4) specialty scenario: school library media education. (JMK)

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VISION TO PURPOSE TO POWER: A QUEST FOR EXCELLENCE IN THE
EDUCATION OF LIBRARY AND
INFORMATION SCIENCE PROFESSIONALS

BY

JANE ANNE HANNIGAN

Professor, School of Library Service
Columbia University

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Education has traditionally held an uneasy place in American society. We acknowledge its role in the greatness of our country, but we frequently refuse to support it and pay adequate wages to its practitioners.¹ We expect much from schooling but fail to recognize its role in the improvement of our lives. On the other hand, we are quick to place blame on the schools for everything from highway accidents to drug abuse to broken families. It is, however, at times when this country's

1. An excellent synthesis of this relationship is provided in the Sykes paper. Gary Sykes. "Contradictions, Ironies, and Promises Unfulfilled: A Contemporary Account of the Status of Teaching," Phi Delta Kappan Volume 65, No. 2 [October 1983]: 87-93.

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technological, military or economic superiority - is challenged - that reports and commissions on education proliferate and have their greatest power. The post-Sputnik curricular commissions certainly had a major impact on all levels of education in the United States. Now A Nation at Risk² is serving as a focal point for the latest, and one of the most publicized, challenges to our educational system. Those of us involved in and committed to education must seize this opportunity to explore both the purposes and the power structures of schooling to move the nation from this declared state of mediocrity to that of excellence.

Although A Nation at Risk emphasizes secondary school education, it contains much which challenges graduate education both in its general concerns and indirectly through the corresponding changes necessary at all levels of education if secondary schools respond successfully to this mandate. The emphasis on "Basics" (including computer literacy), higher standards and increased time on task with a longer school day and school year will certainly have impact on the undergraduate and graduate programs that students from such schools will enter. Other recommendations concerning the selection and retention of teachers have very direct significance for the education of library and information professionals. Librarians, like

2. A Nation at Risk: The Imperative for Educational Reform. A Report of The National Commission on Excellence in Education. Washington, D.C.: U.S. Government Printing Office, April 1983.

teachers, are in the lower professional levels according to both status and salary, and radical action is necessary to improve this situation.

The final recommendation on leadership and fiscal support is essential to the continuance and the development of all education in this country. It is imperative that we clearly define what is to be accomplished at each level of schooling and how the information needed by funding agencies is to be determined and delivered. Only when our purposes are clear can we expect to command the kind of power in the marketplace that will enable us to fulfill our commitment to the process of life-long learning.

Dr. Harry Judge of Oxford University identified a conundrum in his investigation of U.S. graduate schools of education for the Ford Foundation. He wrote of his puzzlement as follows:

Why should famous graduate schools apparently central to so much in American public and academic life, be regarded as, and regard themselves as, peripheral, as insecure, as undeserving of self-esteem.³

Although Judge was not discussing graduate library schools, I believe he could well have been doing exactly that.

3. Harry Judge. American Graduate Schools of Education. "A Report to the Ford Foundation" New York: The Ford Foundation, 1982, p.6.

We share with our professional colleagues in teacher education a kind of identity crisis, an uncertainty as to whether we should be concentrating on the arts and sciences of library education or on the profession of library education. Michael Timpane has clearly stated that a school of education must be a professional school in which research and scholarship are central.

Schools of education will become mature professional schools to the extent that they create knowledge that will advance the field, transmit the scientific basis for practitioners of teaching, administering, counseling and the like, and use both to undergird the clinical training of students.⁴

This process is one that library and information science educators must engage in as we move toward our own maturity with clarity of purpose and a wise perception of power.

All educators must move beyond the primarily quantitative recommendations of A Nation at Risk to focus on and deliver really substantive qualitative changes in the educational opportunities offered to all people in our society, from preschoolers to senior citizens. The preparation of those in all the educating professions, including librarianship and information science, is critical in this process. New or improved course offerings, at whatever level of schooling, or

4. Michael Timpane. "The Future of Schools of Education in Research Universities," Draft Report for Association of Colleges and Schools of Education in State Universities and Land Grant Colleges and Affiliated Private Universities. Minneapolis, October 10, 1983, p.7.

increased time on task will not necessarily improve education if those providing that education are not themselves better educated.

ON THE PROCESS AND PROBLEMS OF CHANGE

Perhaps librarianship is faced with even greater problems than those of education. In fact, its very existence is being challenged. Is it possible that librarianship is disappearing as a profession? This is a difficult question to answer. Given the ready availability of information and the re-orientation of individuals and various professional groups to access that information more directly through electronic means, it could be so. Certainly library and information professionals cannot continue as we are. The nature of the field is changed and should continue to change. We seem to flutter as tiring butterflies trying to hold on to a rapidly changing environment when we should be taking the lead to initiate the most appropriate changes. Diversification is certainly one factor to be considered; we should seek a variety of professional directions rather than a "one model" approach.

We have consistently tried to educate almost all librarians and information scientists in one mold. This simply cannot be done--it never could. School library media specialists

and children's librarians have long had specialized programs to meet special needs; then some degree of specialization in other areas became the rule. Nonetheless, all programs are ordinarily housed within a single institution and share many of the same courses. Full and rigorous programs of specialization have seldom been possible for two reasons: 1> insufficient faculty in any one institution to accommodate all the special needs and 2> the overall expense of such programs. Although there are advantages to different types of librarians studying together, perhaps the time has come for library schools to recognize that they can be qualitatively superior only by limiting the number of specialized programs they offer and thus concentrating limited resources. Library educators must give up the rather immature notion that we can be all things to all persons; we must accept that this is impossible and select the professional territory in which excellence can be achieved. This might mean that some schools will educate professionals for a particular type of library, others may educate for type of service, others for information science, still others for technical automated systems, and still others for higher level management functions and so forth.

The considered decision to make such changes is not easily achieved since vested interests and a too often blind respect for history and tradition abound. Perhaps some clever Deans will envision a means of exchanging faculty among schools

to consolidate like resources and develop the kind of strong but diverse programs I am describing. A significant problem, however, is that many faculty members would be faced with re-training or relocating. This is not a bad notion and parallels most of the world of work; if one can not meet job expectations in a particular time and place, that person is forced to seek new employment elsewhere. If faculty do not seek to upgrade their abilities, the Dean and senior faculty must address this problem. The difficulty is that it may be precisely these administrators and senior faculty members who are most firmly entrenched both in their positions and in their time-proven ideas and methods. This problem might be considered justification for the abolishment of tenure in higher education and particularly in professional schools. Even more serious is the question of whether those who do keep up with scholarship and practice in a field should have job protection if that particular field of study is no longer a viable offering in the institution.

An additional dilemma is faced by both the administration and the faculty when changes in programs are contemplated, that is, the constituency of the school often do not respond favorably to what could be considered radical approaches to change. If a school has traditionally educated for several types of libraries, a proposed change in that arrangement will cause outbreaks of disgruntled and grumbling alumni and

other friends of the school. At the same time, I might point out — that these are often the very persons who complain about the need — for a given school to change, to meet current needs, and to plan for the future.

In the past two decades, library education has moved from managing expansion to managing retrenchment. This expansionism was reflected in the name changes of schools, increased courses in information science and in more and more courses and programs to meet immediate interests and attract potential students. In the first stage of this process faculty became more highly specialized and more autonomous in their behavior. Faculty development in higher education has sometimes even been defined as an increase of autonomy. Now, during a period of retrenchment, this kind of autonomy is inhibitive of the kind of planning and cooperation necessary for survival. Individuals are using all their energies to save their own very narrow turfs within a school rather than responding to the need to reexamine the whole field of library and information science. In the process, they are putting entire schools in jeopardy. The decision to cut programs and specific courses is often made on a bottom line philosophy unacceptable to most members of the academic community. It is significant, however, that faculty members seldom spend the time designing revised and economically sound programs of study that will meet bottom line expectations.

At the present time, most library and information

science schools profess to do far more than they could possibly do well. There is no question in my mind that the pretense embodied in isolated course offerings for types of library service rather than full-scale programs is an unethical stance. For instance, one course in public libraries or one course in academic librarianship does not a program make. Excellence demands immediate elimination of such practices. Either a school has a full-scale program with appropriate support or it does not--no fudging allowed! This is an area in which I believe COA has failed to adequately measure the goals of an institution against its performance. If a school has in its mission statement the education of librarians for all types of libraries, then it behooves us to verify how this is accomplished. We must, as a profession, acknowledge that some of our programs are third rate and vastly imperil our overall professional mission. Accreditation as a process seems to measure minimum conformance to standards but does not, by definition, require excellence. Given the thrown gauntlet of A Nation At Risk, we as a profession must take the opportunity to seek ways of identifying, encouraging and even institutionalizing excellence.

ON THE CRITERIA FOR EXCELLENCE

An examination of the positioning of library schools within the parent institution reveals varying configurations,

some of which may change considerably in the years to come. Some schools will retain their current autonomous positions within the structure of a major university; others will form new administrative and academic alliances with other graduate or undergraduate departments; still others will close. Some schools should close, but that determination should be made on sound intellectual and educational projections of both professional and fiscal viability. As a profession, we must learn to recognize excellence and reward that quality with survival and support.

A primary criteria for judging excellence would be the nature and rate of movement in the profession exhibited by graduates of a given program. This places the burden of excellence on the ability of the graduates to achieve their marks in the field of practice and to move upwards within that field. The rate of movement might form some interesting matrices. Of course, this cannot be considered an accurate measure unless admission and performance standards are more precise and more demanding. A second measure for judging excellence would be within the territory that Robert Hayes has staked out with his analysis of faculty productivity.⁵ My argument with Hayes is in his exclusive use of citation analysis which does not necessarily allow for those who move along other paths not encompassed by

5. Robert Hayes. "Citation Statistics as a Measure of Faculty Research Productivity," Journal of Education for Librarianship Volume 23, No.3 [Winter 1983]: 151-172.

such a technique. The concept he proposes is an excellent one — but we should seek out additional means to judge professional activity and to report it.⁶ My third criteria for excellence would be in the nature of research activity taking place in an institution. This might be judged by doctoral activity as well as faculty research. I believe that we need monies, and I mean large chunks of money, to establish the kind of research environments that exist in some other disciplines and then to test the relationship of that environment to the quality of education provided within it. I would like to see grants that require a large scale commitment to research in a given institution rather than the continued funding of "loner" concepts. I would also encourage funding of joint inter-institutional research activities. The education of the profession should itself be a focus of research in the field. My fourth criteria would be teaching excellence. Innovation and creativity in the classroom as well as dogged determination to increase the success of student learning is a hallmark of excellence. There is no doubt that each of these criteria are interwoven into a whole and that each is critical to our power in the marketplace if the education of information professionals is

6. Another view on judging professional excellence is presented by Barbara A. Rice and Tony Stankus. "Publication Quality Indicators for Tenure or Promotion Decisions: What Can the Librarian Ethically Report?" College and Research Libraries Volume 44, No. 2 [March 1983]: 173-178.

to continue as a viable commodity.

One potential pattern for the future of library education is the movement of library schools into a configuration with other schools and departments in which the library school as we now know it may actually cease to exist. Perhaps the best possible program for the education of information professions at this time does consist of components from schools of business, communication, education, science and engineering as well as computer science and librarianship. Any such configuration could rob library schools of their identity and autonomy but may be a more responsible use of the total resources of an educational institution. Establishing the academic responsibilities of each component in such a merger will be the challenge. Regardless of the name of the school or of the degree granted, the important thing is to provide the best possible education for information professionals for the future. No one alternative is the best model; rather we will see pluralistic and diversified approaches in the years to come, a welcome and positive movement in higher education.⁷

7. Although Birnbaum's research reveals a decline in the level of institutional diversity, he suggests several steps to both preserve and enhance the future levels of institutional diversity. Robert Birnbaum. Maintaining Diversity in Higher Education. San Francisco: Jossey-Bass Publishers, 1983, 149-182.

ON STUDENTS AND ADMISSIONS

It seems logical to consider the requirements for admission to graduate education in librarianship and information science for the future. Trachtenberg, although a believer in the rich future of institutions of higher education and their "magnetic" attraction for intellectuals, at the same time suggests that the future is bleak in higher education with flagship schools existing only for the elite and the rich. He projects a stratification and sharp differentiations of status as the rule for colleges and universities which no longer provide incentives for poor or less able students to attend.⁸ One of the essential requirements for admission to higher education will continue to be intellectual ability demonstrated through successful academic undergraduate record; and standards will be made even higher, particularly for the young undergraduate applicant. In addition, I would like to see greater commitment in candidates for the profession, one that is less generalistic in nature and more revealing of knowledge of the role and responsibility of the profession they seek to enter. With

8. Stephen Joel Trachtenberg. "What Universities Will Be Like in the Year 2000," Phi Delta Kappan Volume 64, No. 5 [January 1983]: 327-330.

appropriate information and careful counseling, it should be possible for candidates to make career decisions that are consciously chosen and based on informed knowledge.

In the advisement process educators have a moral responsibility to engage in a dialogue that may enable the prospective candidate to select the best possible program for that person's declared intention in the profession. I am speaking here of what I call a Position Profile which would be an attempt to match a career pattern, including movement upwards within that career, with both general and specific requirements of the profession. Thus, if a student wants to work in academic librarianship, a position profile for that area of librarianship (and there could be seven or eight of these) would be used to guide the student in planning educational experiences.

I believe that career decisions should be made before entering a graduate library school but, at the same time, recognize that there is a potential for any person entering our field to move to another library or information science profession or leave the field entirely for any number of reasons. I am conscious of the need to recognize alternative career paths over time, of which librarianship is only one opportunity. The concept of multiple careers in a lifetime is obviously part of what we will continue to see in the future. Just as we have students directly from undergraduate programs, so too we will continue to have students who have left other careers

and seek the education to embark in this field. The requirements may be somewhat different, but essentially they will have much in common. It may be necessary to weigh life experience (not by years, but by solid life and practical business experience) over previous educational achievement. I do not mean to imply by this a lessening of standards for admission of older candidates but a more sane approach to the valuing of maturing intellectual development and the previously developed competencies of an individual.

Separate admission requirements may also need to be established for those who elect to participate in a particular part of our graduate school offerings rather than completing an entire program. For example, a business corporation may elect to send its employees for particular series of courses or workshop content. This may require a more efficient and immediate admissions process with entry determined by the sending agent and payment made by the employer. It is the type of educational paradigm that recognizes the obligation to consistently up-grade personnel in practice without pretension at anything more than reaching a specific set of practical objectives. In some cases we will be teaching a set of skills that permit a better job to be done in a specific desired context; in others we might bring together personnel from practice to address a series of difficult problems. In the latter instance we may use theory as the basis of discussion and the resolution may be dependent on the

application of principles derived from theory.

Another category of candidates for education may be students in other areas or disciplines who might find some modules of our content useful and applicable to their educational programs. This might be more than the usual cross registration that we now practice; rather it would be a concerted effort to recruit students with the specific objective of offering intellectual content, and/or training in a specific set of conceptual skills. Here we may have to set another list of requirements for admission that more realistically approach the requirements for success in a specific course. All of the above suggestions may have been tried in one or more institutions, and they sometimes become an administrative nightmare. Part of this problem could be solved with computer software available to efficiently monitor such multiple alternatives in admissions patterns.

Another area that might be looked at with some interest is that of undergraduate education. With both Drexel and Pittsburgh Library and Information Schools designing and implementing information science programs for this constituency, it may be a viable alternative for students and a practical path for educators. This is wise foresight on the part of these schools; students in undergraduate and even high school programs will eventually be highly skilled in computer technology when ready for career decisions. Programs that offer them

opportunities to engage those competencies and increase their knowledge will be prime targets for their interests. Admissions requirements for undergraduates would be primarily those of the parent institution, but library and information science educators might attempt to have input in the decision process and thus indirectly effect standards for admission to graduate professional schools.

ON ACCREDITATION, CERTIFICATION AND CONTINUING EDUCATION

The accreditation process is linked to standards and the nature of standards often leads to the assumption that they must be broad enough to encompass general offerings and the majority of programs. There have been repeated calls for a revision of standards that will require more stringent qualitative assessment than at present. The greatest danger in standards is that they are misused as a weapon to prevent any change in the status quo or as a means to enforce conformity. Standards should never be detrimental to progress. We need to develop standards for general functions and mission but we also need specific standards for specific types of programs. We might do well to build upon the work of the various ALA units and divisions which have developed standards and guidelines for professionals in their areas of specialization. There is no doubt in my mind that cooperative contracts with these and other

associations must be developed quickly and efficiently to offer a unified and stronger front in accreditation excellence.⁹

A great deal of energy has been expended on the question of the length of the basic graduate program in library education. I believe that the value of such a program is less dependent upon time spent than upon the nature of that program. I discussed this several years ago and still feel that we are in the same position as at the time of that conference.¹⁰

If accreditation standards need to be improved, so too does our scrutiny of certification requirements. Others have written at length about licensing and national testing, but to date there has been little positive movement. As a field we seem to accept and tolerate a large measure of rank incompetence in practice. In order to correct this situation, we will need to establish cooperative ventures with professionals in practice. Certainly, the models offered by medicine and law are worthy of our attention. Perhaps we should set up a variety of models, similar to internship and residency, to measure performance in the actual world of professional work prior to permanent

9. The ALA Committee on Accreditation is developing such a proposal for cooperative efforts among various associations.

10. Jane Anne Hannigan. "The Extended Time Frame: An Analysis and Summation," in Extended Library Education Programs. Proceedings of a Conference held at The School of Library Service, Columbia University, March 13-14, 1980, pp.133-143.

certification. In addition to law, medicine and teacher education, we might examine our own long-established Library of Congress Internship Program for its contribution to this aspect of professional education.

We must also acknowledge that certification is not the end of professional education. Too often continuing education has been perceived of only as a remediation process or as an upgrading of skills. Although these goals are acceptable and indeed admirable, continuing education is also more than this. In order to respond to A Nation at Risk and its mandate for excellence, particularly in the context of lifelong learning, library and information science professionals must perceive of their careers as constant and consistent learning processes. The mind set this involves requires us to look at what might be possible for the future rather than always basing expectations on minor alterations of past performance. The library and information science educational institution should be able to offer a variety of opportunities to the professional community that are on the cutting edge of change and place the clients of such courses in a leadership posture. Many of the continuing education responses should be institution-specific particularly at the decision-making levels, wherein practicing professionals could sharpen intellectual capabilities directly beneficial to their positions. On the other hand, we should recognize that continuing education offerings initiated by graduate schools may

also be appropriate for other professionals in business and industry and market these offerings to generate additional dollars. Here, I clearly mean that we may educate some students who are not library and information science professionals but who seek a tangible portion of relevant curriculum for their own professional objectives. For too long we have developed a pattern of thinking in terms of a degree granting concept with an occasional credit/non-credit workshop; we need to perceive of much more diversity in what various aspects of our programs may offer to potential students. Such versatility may mean greater excitement in teaching and substantial financial income to the host institution. It is also true that the various components of graduate education need not be tied to the traditional quarter or semester 3-credit course. We need to perceive of professionals in library and information science as requiring a career-long pattern of continuing education and explore, in collaboration with our colleagues in practice, what the needs are and how best to continue to meet those needs.

ON FACULTY

One of the most difficult segments of this paper to write has been that discussing faculty. After over twenty years in library education, I find that my views are mellowing and my recognition that human beings are, after all, quite human is more

pronounced. I still have no patience with those who hold positions as faculty members and do not do their jobs. I feel morally enraged when I see laziness and incompetence in the classroom and the university. I am always hopeful that the wonder of being a teacher, and a vision of the profession with all its power and purpose will serve as a universal base for all who share this mission with me.

Faculty should be at least up-to-date in their fields if not on the forefront of knowledge. This presupposes some type of involvement in the profession, whether it be through research, consultantships, writing, or professional associations, to explore new ideas and exchange views that may lead to educational change. Bolster has offered a rather succinct presentation on the generation of knowledge in education.¹¹ This might be usefully contrasted with Gage's work in examining a variety of research approaches in teaching. I note with interest the Gage analysis of the Process-Product paradigm and suggest it might be a useful approach in research in library and information science.¹² In addition to keeping current with content in the field, faculty should be alert to teaching strategies that permit students to

11. Arthur S. Bolster, Jr. "Toward a More Effective Model of Research on Teaching," Harvard Educational Review Volume 53, No.3 [August 1983]: 294-308.

12. N.L. Gage. The Scientific Basis of the Art of Teaching. New York: Teachers College Press, 1978.

achieve objectives more efficiently. The need to discuss in some detail the variety of teaching strategies that might be invoked to achieve a given teaching goal is ordinarily not a highly respected activity in library schools. Unfortunately, faculty members frequently do not find such discussion of interest; many rank it as unimportant if they give it any thought at all. Detailed and conscious design of how, as well as what, we teach is overlooked or ignored. With all the research on teaching, as well as new possibilities through technology, we ought to consider this question with some seriousness. I have never encountered a conference in library education devoted solely to teaching strategies, and I only wish there was one. An interesting article concerning consultation on teaching in higher education contains some insights that may lead to more appropriate determinations of what takes place both inside and outside the classroom.¹³ The authors are concerned with intense discussion with each faculty member as the key to increased ability in course design and implementation. Faculty should also develop a sense and sensitivity to when old courses should die and new ones should emerge. This careful attention to what is educationally needed and practically sound is an essential requirement. It also presupposes that faculty can change to

13. Carol Carrier and Others. "Theories of Teaching: Foci for Instructional Improvement Through Consultation," The Review of Higher Education Volume 6, No. 3 [Spring, 1983]: 195-206.

adjust to such needs.

Faculty need to be willing to acquire the newer competencies that a high tech society demands. This may mean personal effort and expense but it should also mean that universities provide additional monies and opportunities for continuing education and re-training. In this discussion of faculty, it is essential to consider both salaries and the career paths of younger members of the profession. We must increase salaries in order to justify what we are asking of the personnel involved. In addition, we need to assure positions for younger faculty who are critical to the intellectual and professional lives of senior faculty and to the entire educational endeavor. A faculty needs the mental exchange that the "young turk" provides to the elder statesperson. Without this the chances of atrophy are increased dramatically. If beginning salaries cannot entice the young and enable them to stay in teaching, the profession will continue to be at risk.

Faculty need to be confident and take pride in their career choices and not perceive of such choice as a second-rate decision. I find it interesting, in asking faculty what they do in academe, to discover that many in our profession choose to label themselves social scientists, policy analysts, literary scholars, and so forth; too few seem to be proud to say, "I am a library educator!"

ON DEANS

The role and responsibility of a Dean is a difficult one, and increasingly we are witnessing the lack of qualified candidates to assume that role. The management of any endeavor in higher education is no longer a one-dimensional operation; rather it requires the skill of a given administrator to negotiate the managerial process while defending and implementing the declared educational mission of the school. Deans should demonstrate the ability to exercise leadership as well as competence in entrepreneurial skills. The ability to raise monies, seek out new avenues for recruitment of both faculty and students, while acknowledging the internal politics and survival techniques of the parent institution and to be a sensitive leader of persons is no mean task for any individual. Deans, like faculty, may be either very good or really bad. Some lack interest in what they should be committed to do; others lack the vision and ability; both probably reflect this disinterest and incompetence in the ways they govern their schools. Others lack the ability to compete at the appropriate levels of political warfare within a university community. Faculty and surely higher university administrators are becoming less willing to accept the customary pattern of a more or less benign autocracy. Although faculty are often angered by the thought of a manager, not a

scholar, in the Dean's chair since such a person seems out of context in the gestalt of the university; they eventually yield in their opposition. The concept of "managing for excellence" proposed by Balderston recognizes that "the policy of pressure toward excellence has costs and risks, and its pursuit sometimes endangers an institution's survival prospects."¹⁴ Too often Deans are on the level of "managing for survival" or at best "managing for stability," rather than "managing for excellence."

Most graduate schools have moved to a more active involvement of faculty in administrative decisions, but the cost to faculty, and ultimately to the school, is quite high. Little effort is put in at the administrative level to weigh the consequences of faculty time spent in committee and task force activities. Often such use of faculty demonstrates an amateurism in dealing with powerful or sensitive issues, and ultimately such activity may become an excuse for lack of accomplishment in either the classroom or the marketplace. Administrators need to make much more careful judgments about what should, or should not, be decided by committee and then be certain that full and appropriate information is available to committee members. Deans sometimes permit decisions to be made hastily that should be discussed more fully by the faculty. Budgetary concerns and the

14. Frederick E. Balderston. Managing Today's University. San Francisco: Jossey-Bass Publishers, 1974, p.268

determination of allocation of monies in relation to potential — payoff are often not brought to faculty attention until a — decision is made and any questioning or disagreement is considered a negative and argumentative response. Deans need to be skilled in managerial competencies, but, at the same time, they should be versed in the nature of academic vision as well as academic requirements that such a position assumes.

On the one hand, a faculty wants a Dean who is a scholar while, on the other hand, it wants a Dean who will fight for the school and the faculty in the higher levels of administration. The conflict is self-evident. Given the state of library and information science education, I would emphasize the need for Deans with managerial competence because the key to power is in successful communication with higher levels of administration. I believe Deans will have to acquire a new sense of how to use faculty to greater advantage. The ideal Dean will cut out wastes of faculty time and encourage activities that are either income producing or prestige/status producing, although always with a purposeful move towards greater creativity, contribution to knowledge and service to students. Faculty may not be wildly happy with this type of Dean; many prefer a parental figure whose benign kindness and applause encourages mediocrity and appeases the winds of danger. Perhaps the primary characteristic of a Dean of the future is the ability to reason and to act with logic and versatility as well as with a touch of

wisdom and humor.

ON TECHNOLOGY

One very clear lesson from history is that libraries have traditionally been in a laggard position with a new technology; now it is time to take a positive and aggressive stance and to seek out new futures and applications of technology. One of the major concerns I note in all of library and information science education is also true of many other areas of higher education; the "lagging behind syndrome." By definition, we should be on the forefront of knowledge expansion, pushing forth the borders. Yet, in all too many cases within the university, even in some of the hard sciences, we are not able to function on the same levels as peers in business and industry who have access to more sophisticated instruments for accomplishing their objectives. For example, I cannot believe that a faculty member today can function successfully in terms of total impact on education and the profession without access to a personal computer or its equivalent. The advent of the personal computer has a marked influence on the speed with which we will have to alter life styles and the rate at which we will have to accommodate to change. It is relatively easy to determine, in the case of word processing, that writing letters and reports and memos for library operations may be the prime intention. These

may be the only uses initially identified, but one should exercise imagination to envision other alternatives that might be possible for a library operation. For example, would the need to publish an article by a staff member be something of interest; would news releases for local newspapers be appropriate; or would evaluative reports on programs and/or staff be produced in a more timely fashion? Obviously, it is essential to know what is to be done with such an investment in hardware and software if the education of the professionals who are to use this investment is to be of value. More inter- and intra-institutional work will be needed to propose and seek out both exciting uses of technology in practice and such projects as CAMED and EDUCOM that address faculty needs and provide the technological support systems to accomplish specific tasks.¹⁵

Although we need to be on the forefront of information technology, we must avoid the too hasty race to include courses in programming, in office of the future technologies, data base searching, and the like, in an effort to survive in the marketplace. The intellectuality of some of these courses is questionable at the very least, although they might be justified at the consumer level. One of the really difficult problems is

15. CAMED, at Teachers College, Columbia University is funded through APPLE to explore use of computers in administrative applications. EDUCOM has developed a consortium of educational institutions to cooperatively develop software for educational and business applications.

that we, as a profession, have not adequately discussed and analyzed the essence of such courses. We assume that not to move is backward and to elect to change in such a direction is a giant leap forward. I find, in talking with faculty and in examining articles on new courses, that we often miss the avowed purposes of such course designs. We are easily snowed by jargon and by those who enshroud themselves in the mystical language of high technology. We need to recognize the experiential as a valid part of graduate education, while maintaining our sense of purpose and moving powerfully toward excellence.¹⁶

THE RESEARCH ENVIRONMENT

For most institutions of higher education the research environment is a significant factor in the *raison d'être* of the academic community. It is an essential factor in graduate schools as we strive toward the increase of research activity within library and information science education. On the one hand, there are institutions with doctoral programs and thus, automatically, one may assume a research richness. On the other

16. The formal characteristics of rigor, appropriateness and balance described by Jacobs would be a profitable basis for faculty discussion. Frederick Jacobs and Richard Allen, Editors. Expanding the Missions of Graduate and Professional Education. San Francisco: Jossey-Bass, Publishers, 1982.

hand, we have institutions without such programs where the — challenge to create a research environment is much more — difficult. This is not to imply that having a doctoral program ensures research on the part of the faculty nor that faculty in a school without such a program cannot be productive researchers. In fact, there is indication that some faculty in doctoral programs expend so much intellectual energy on student research, that their own personal research may suffer.

Additional factors, such as financial and psychological support for faculty committed to research, should be present in the environment. Primarily, the support is administrative, that is to say, the Dean should appropriate necessary monies and services to encourage research activity. This may be in the form of faculty grants, or it may be in the form of equipment, materials, or secretarial and clerical support. It is unconscionable that many Deans have decided that a vulnerable aspect of the budget is research and, therefore, cut monies with the rationale that funding should come from outside granting agencies. This notion acts as a deterrent to research and increases the likelihood that faculty demur from taking on the burdens of such activity. On the other hand, the greatest support may be in the simplest of all roles for a Dean, providing encouragement and enthusiasm as a faculty member embarks upon and completes research. Nothing is more discouraging than the cold and indifferent response of one who is supposed to lead.

Another significant factor is the collegial support from others on the faculty. The need for faculty recognition is critical to success for some people. Often there is opportunity to work with others in a team effort, but at times one must go it alone. The day of the loner in library and information science education should be over--we are more than ever in need of mutual exchange of ideas and assistance whether engaged in individual or team research. If our own institutions do not serve as the focal point for this kind of exchange, we must reach out to other institutions and colleagues. Certainly, it is common in empirical research for one to be helped by dialogue and the interaction among peers and we should encourage this in our field as well.

It is absolutely essential that we as faculty should seek out cooperative projects with colleagues in practice which could offer to the profession a combination of wisdom from two dimensions, that of theory and that of practice. Research institutions need to be more involved in research activities in practice. The cooperative research project that involves both library staff and library faculty from the first stages of design through completion of the project should be more frequent than any evidence demonstrates. Such mutually beneficial activity has been prevented by a reciprocal distrust and a tenacious protection of turfs. The problem of bringing the two sides together is not an easily solved one. The very ingrown nature of

the library and information science educational community — nurtures the sense of other educators as our colleagues and often — prohibits us from seeing the professional practicing community in a similar light. Cooperative research requires an up-to-date faculty with a clear sense of practical concerns as well as practitioners who are able to use more theoretical ideas on the cutting edge of practice. Each has something to offer the other. Faculty members can offer focus on a research task without the diverse demands of practice while practitioners can assure that the research will actually enhance that practice. What is essential is that care be exercised to assure that both personal and professional benefits are fairly and equitably distributed among the individuals as well as the institutions involved. For instance, articles should be submitted with joint authorship indicating all those who contributed to the work no matter who actually writes the document, a common practice in the hard sciences.

I would add to this the need to cooperate and seek connections with members of the larger university community.¹⁷ In addition, working with colleagues in allied fields may indeed

17. IBM has formed a new unit to serve the advanced computing needs, including research and innovative computer applications, of universities and colleges in the U.S. called Academic Information Systems (ACIS).

be a means of successful research involvement.¹⁸ - All of this rests on a personal theory that being a teacher includes the obligation to be a sharer; of ideas, of viewpoints, of commitments.

For those outside the empirical domain of research, it is important that we provide the forum for discussion and the needed exchange of views to make such contributions both rigorous and dynamic. It does not seem reasonable to have faculty isolated in their offices or homes working on projects that are carefully guarded and often unnecessarily prolonged when this work might be enlivened and enriched by openness and exchange. Perhaps the greatest lesson to be learned in research is that of sharing. The end product of research is to be shared and so should the process as it develops. Hostile criticism from others should not lessen the commitment of an individual but rather should confirm the intent. Nor should we permit the forcing of anyone into a mold of "the one true type of research"--this does not exist. It is in the marketplace that research should be tested--how applicable is the finding to the furtherance of our profession? None of this is new--but perhaps it needs to be reiterated to sharpen our awareness of a need that is

18. I have found a clear presentation of this concept in: Industry/University Research Relations: A Workshop for Faculty, Proceedings of a Workshop presented by The Society of Research Administrators in conjunction with the National Science Foundation, April 11, 1983.

increasingly important in library and information science.

Some of the simplest things, for instance, the availability of small and large scale computer facilities, make research activity possible. For many pieces of research the personal computer may be the answer with the appropriate software to accomplish the data processing needed. Increasingly, universities are considering alternative configurations for faculty use, including the concept of the "scholar work-station." If a researcher is able to access large data bases, statistical packages and the holdings of a major research library from a personal computer in one's own home or office, many tasks are made easier and more convenient. If word processing of a fairly sophisticated level is available, text writing/editing will be easier. It is implicit in these statements that two things are needed, 1.> the training of the faculty to use such software and 2.> the convenient availability of the software and hardware. To assume that all faculty can make use of an identical approach to acquiring particular technical competencies is erroneous, and often a faculty member may acquire a skill but have no conceptual basis upon which to design a teaching unit or use that skill in research. We will need alternative configurations for training as well as research activities and these will cost money; but this is an investment that will be significant in the payoff for the future. Many universities offer plans for faculty to purchase computer

equipment for personal use at reduced rates. Library educators do not seem to be taking advantage of this opportunity as rapidly as we should and thus are missing out on one of the most exciting exchanges in many colleges and universities, that is, the sharing of ideas and information through electronic bulletin boards.

The use of electronic communications may be a boon in the research of the future, enabling scholars to share and manipulate data over great distances. It could also be the means of involving practitioners and academics in joint projects. It will provide opportunities for obtaining rapid and decisive responses to queries of significance. For instance, if ALANET succeeds, it has the potential of tying together the library and information science community in a unique and immediate fashion. We may lose the insularity that is so steadfast in the library community, and we may increase productivity in service to clientele. In teaching it may be both possible and feasible to ask one or more persons in job sites how they might handle a particular situation while, at the same time, exploring with students in a classroom the reasoning of these persons and other alternatives that might also have been examined.

I also envision the possibility of research in teaching--the examination of the ways and means that might prove most effective for teaching content and for the continuing education of those already familiar with the concepts and content of our field. The development of new courses and the re-design

of old courses should encourage a research component that tests the validity of some of our teaching ideas. Research into our own work as educators is clearly a priority if we are to improve the profession.

ON COOPERATIVE EFFORTS

Much is being written about the need, and even the obligation, for cooperation with business and industry in educational endeavors. The concept of partnership is indeed an interesting one that may or may not lead to damage of the ideals of the university. If we thought intervention by the federal government was dreadful, just think of the potential interference of business and industry in academe. Yet, with appropriate safeguards, such cooperation may lead to mutual benefit and increase the capability of both the corporate and university communities. IBM, for example, has chosen to work in cooperation with a number of institutions in order to increase research and production.

We in the information business may be able to work out arrangements with corporations to offer needed components in staff education and/or training with greater ease than might be thought possible. For instance, most technical and automated systems traditional to our field have something to offer

corporate agencies. Library educators may also gain from the increase of activity following the passage of the APPLE bill and other such measures that will enhance the resources and capability of the university. Roy Gavert suggests the need for establishing more "formalized agendas of cooperation,"¹⁹ which may imply the development of a legal contract between the cooperating institutions. Some institutions already involved in cooperative ventures are Harvard and DuPont, Columbia and IBM and Carnegie Mellon and Westinghouse. The research base is the bedrock for such cooperative ventures, aiding the development of knowledge of value to both the academic and business communities.

Global Stakes makes some of these same points asking the professional and educational communities to deal with a critical problem; the future competitive nature of the United States in both the creative and product markets and the lack of educated information professionals to accomplish these tasks.²⁰

19. Roy V. Gavert. "Business & Academe: An Emerging Partnership," Change Volume 15, No. 3 [April 1983]: 24.

20. James Botkin and Others. Global Stakes. Cambridge, Mass.: Ballinger Publishing Co., 1982.

ON FUNDING

Fund raising is a critical aspect of higher education for the future. Library and information science education is not immune to this responsibility and must seek out avenues of a broader-based approach. This may mean involvement with a university-wide development office or it may mean sacrificing a more traditional position to obtain a fund-raiser. We need to look beyond the typical role of a Dean as a fund raiser; that is to say, one who raises monies primarily through grants. We must continue to obtain grants for both student and faculty support, but we need innovative measures that seek out other R & D resources while also accepting a Market Research approach. This latter concept will involve some serious cooperation between faculty and business to achieve mutually beneficial goals. We need the ability as faculty to arrange with vendors for particular tools and equipment that will benefit the environment for research and /or practice. What is needed is an overall vision allowing for a wide variety of fundraising opportunities and relationships.

ON CURRICULAR PLANNING

It is important to keep in mind the need to break out of our traditional institutional settings to think about what will be needed in the education of the information professionals of the future. This presupposes that we brainstorm in terms of myriad possibilities rather than within the containment of what we now see. We are too often prone to revisions of what is and not the adoption of new and exciting directions. We need to accept and be able to distinguish among three distinct aspects of program in our analysis. The intellectual/conceptual level of our design must be paramount in our thought processes; this explores the organization of knowledge, the structure of communication, the theoretical bases of information science and librarianship and the teaching theory that may be pertinent to any or all of the above. It presupposes a teacher-controlled learning mode, that is, it is the teacher who selects and structures the content to be learned and plans strategies to accomplish that learning. The second level is that of the knowledge of tools; that is to say, the exploration of "the what" and "the how" of the apparatus of our profession. The teacher will help students identify a variety of tools and provide some guidance for use, but basically this aspect of learning is student-controlled. The third part of our learning triad is the

training or practice segment to be planned cooperatively with library educators and other professionals outside the basic educating institution. One part of this may be the already established field work or internship which offers an opportunity for general practice of all that has been learned. The major difference is that the basic supervisory responsibility would be with the field professional rather than with the university professor. Field work is a very costly practice for faculty and the field-site supervisor but is usually well received by students. The supervisor in the field site who is also a clinical professor is the most appropriate professional to be responsible for this component of the educational program. This is one type of cooperation between practice and teaching that has worked successfully; however, it needs further exploration to consider more fully the possibilities of such work.

Herbert White suggests moving a distinct segment of our educational mission to an area of training to be defined in specific competencies identified and required by practice.²¹ This is a valid means for continuing education design but requires a more realistic approach to getting through the administrative and educational red-tape involved in the approval of programs. It also presupposes that we can clearly define

21. Herbert White. "Defining Basic Competencies," American Libraries Volume 14, No. 8 [September 1983]: 519-525.

training. I would argue with White that training is not a lesser factor, just a different one, in the holistic education of a professional. Those who can think but are unable to translate ideas into action are no more useful to the profession than those who act without thinking. It is when faculty cannot tell that difference that we are in trouble and headed toward a mediocrity in education.

Another part of this segment has to do with system-specific training such as that required for the effective use of a particular database. In this, we might make use of the first rate training programs offered through vendors. Why should library schools invest faculty time and energies in the teaching of data bases in a system-specific mode? Why not engage Dialog, BRS, The Source, CompuServe and others to do the job for us? Certainly it would be advantageous for them to do this, and the arrangement would provide a currency impossible if the library educator attempted to keep up with the latest in each of the systems.

Another example of such cooperation might be the co-teaching of a problems or issues course in the actual situation or field site. The concept of moving students out of the academic environment is an exciting one. This might also be accomplished, in part at least, through electronic teaching, that is, using teleconferencing and electronic mail as a means to achieve educational objectives. Essentially we need to spend

more time as a faculty in discussion and analysis of the
— curricula. We need to think in terms of the professional
— justifications of the educational experiences of students both in
the classroom and in outside assignments and activities provided
for them.

ON ALTERNATIVE CURRICULA SCENARIOS IN LIBRARY AND INFORMATION SCIENCE EDUCATION

Given the current technological environment, the
recognition that we are a post-industrial society in the midst of
what has been labelled the knowledge revolution, it is incumbent
upon library and information science educators to consider a
radical change in the nature and the focus of the curricula.²²
The approach used in this paper is to suggest several models of
curricula that reflect emphasis on, respectively: the human being
as an end-user, the process, the product or the specialty. I do
not proclaim that one is superior to another but rather that they
are different. Each model raises questions for faculty and
administrators to explore and either accept or reject. At the
very least they should function as catalysts for action. The

22. This concept of the knowledge revolution and its impact on
higher education is explored in some depth in Bernard S. Sheehan,
Editor. Information Technology: Innovations and Applications.
San Francisco: Jossey-Bass Publishers, 1982.

fact that no one school can provide strong programs in each of these (and other, as yet undescribed, areas) is not indicative of a view that one kind of emphasis is more important than the others. Rather we must begin to look at the profession more globally as a community of educating institutions, each concentrating on the particular area in which excellence can be assured.

END-USER SCENARIO

One curriculum scenario emphasizes the human encounter and is focused on the end-user and "the professional's role in encouraging life-long-learning." This scenario is predicated upon the rapid increase of alternative systems or avenues to information and the increased need for facilitators in information negotiation. The primary purpose of such a curriculum would be to focus on the end-user with all courses developed to accommodate the personal and aesthetic, as well as the intellectual, needs of those end-users. Professionals in such a course of study would explore learning theory, including the nature of communication in all formats, in order to recognize and address the needs of various clienteles. Courses would be designed to increase alternative approaches to data banks, recognizing both the concrete and abstract learning/reasoning styles used by different clients. They would permit students to

explore a variety of means to instruct and to assist the user in functioning successfully in any machine and/or non-machine learning environment. Courses that increase ability in decision-making and that force the student into alternative approaches to problem-solving would be required. The student in such a program would consistently consider work with end-users and select from course offerings those components that prepare for such responsibilities. We have moved in practice from library lessons, to bibliographic instruction and now we need to leap forward into a newer vision of information negotiation instruction. The student in this end-user configuration will also need to acquire competency in the structure of information as revealed through a multitude of channels and telecommunications devices. Perhaps an amalgamation of cataloging, classification and automated systems with reference structures from traditional library education programs along with communication and learning theory might form the basis of such a course of study. Indeed a student in such a program may not be trained in specific cataloging skills but could be educated in the structure and rules of such systems. Another aspect of this curriculum would be the development of competence in particular areas of communication, that is to say, the ability to work with an end-user in developing critical skills in reading, viewing and listening. This may presuppose the acceptance of a model based, in part, on older courses such as children's literature, wherein the content of the course included literary theory, literary

criticism and the actual application of such theories to works in the field. Such a model would permit a greater inter-activeness with end-users, particularly increasing the skills of professionals who would work with those seeking advice and an exchange of views. Of course, this advice and exchange of views need not be only in respect to the kind of information processing that has been in the forefront of most professional discussions in recent years. End users may be simply readers or viewers seeking assistance in selecting materials purely for their own personal pleasure. A traditional function of librarianship, that of bringing readers and books together, must not be forgotten in our rush to be leaders in the information society, and students in this program must learn to interact effectively in this role.

Among the questions that I would raise about this scenario are:

- What is the relationship of exposure to alternative teaching strategies to student efficiency in working with users?
- To what extent should we concentrate on personal and/or learning characteristics in our definitions of end-users?
- What percentage of classroom time should be devoted to telecommunications and projections for access to information through satellites and other technological means?
- If we posit a life-long-learning frame of reference, what

competencies will be needed in spanning a variety of age/ability levels in clientele?

- Should reference courses, as we have traditionally perceived them, continue to be taught?
- How can we best educate students who, in turn, will be able to teach information negotiation to others?

PROCESS SCENARIO: MANAGEMENT OF INFORMATION

Another scenario that must be examined in looking at the future is that of a curricular focus on "management of information" which places emphasis on the process or functions aspects. This curriculum configuration would require the development of courses that focus on the critical abilities needed by an administrator or manager. Courses in human factors and personnel problems are essential, especially as new technologies take over some traditional tasks and displace some of our most experienced and valued professionals. Financial management that makes use of alternative technological approaches such as spread sheets and "what if" planning devices is also critical. Development of courses in change theory and in the consideration of solutions to specific types of problems might prove beneficial. A key component would be the design of courses that employ a team approach, perhaps a team of faculty members

- and the staff of a library institution or a business enterprise.
- The dialogue that follows might combine the strengths of theory and practice while eliminating the obvious flaws of both. Of course, this implies a real cooperative venture with team planning and open discussion rather than a series of individual presentations. The danger of many administration and management courses is that they often are lectures describing either theories and/or practices that are in the mind of the teacher "right" or, at least, "acceptable." Much of real-life management is based in the problem mode that rejects this concept of a "right" or "unique" solution because there are too many conflicting conditions in the environment, and action often must be taken without adequate time for a thorough analysis of alternatives. Teaching might take this into account by providing both a sound theoretical base for decision-making and opportunities for using that theory in judgments that approximate practice.

New developments in software are appearing so quickly that a major concern in information management is adjustment to those changes. For the most part, we are educating people for and with both hardware and software technologies that are rapidly becoming, if not already, obsolete. As educators we must look at situations such as one in which a corporate official can query a database system in natural language and obtain desired results without the intervention of an information professional. What

this means for library and information professionals in the corporate setting is certainly a question to be raised in the education of those in an information management program.

The capability evident with languages such as Express and the potentials obvious in research in artificial intelligence cannot be ignored in our graduate programs. We cannot wait for Robotics to emerge <One can envision the little darlings, one programmed for LC and the other for Dewey, gliding up and down library aisles, shelving books and retrieving journals.> but rather must include in our preparation of managers the ability to brainstorm on future technologies that may impact the field.

Just as Hayes suggests that accounting is an essential skill for a professional, so I would suggest that writing reports and documents is equally important.²³ Most managers must have the skill necessary to prepare efficient and implementable reports. This is not a competence to be assumed from undergraduate education; rather it is the ability to efficiently use time and resources to communicate action recommendations that demonstrate professional insight, intelligence and a sense of history. Educational offerings should include research competence, primarily in the reading, analysis and assessment of research in

23. Robert Hayes. "Managerial Accounting in Library and Information Science Education," Library Quarterly Volume 53, No. 3 [July 1983]: 340-358.

our own fields but equally the ability to read and assess research from allied fields. If we educate ^{to} to examine in a consistent fashion the research reports generated from a given discipline or from a given agency (Rand, Hoover, Westinghouse, Bell Labs), we may increase our capability to analyze and evaluate their appropriateness for our operations. The ability to design and conduct research, however, is not easily acquired; one needs clear delineation of what should and should not be done in research activities. Having supervised the research of numerous doctoral candidates and recognizing their struggles and problems in this initiation rite, I fear for the sloppy and cavalier attitude such notions as unrestricted research might include. We must be able to define what is acceptable research without necessarily requiring the research credentials implied by the doctoral degree. The danger in the demand for more research is that we may encourage research that lacks rigor and thus is, in the end, destructive. The wanton demand for research could be likened to the classic assignment of term papers--often a considerable waste of everyone's energy because they are poorly designed and directed and sufficient time is not allocated for the production of an acceptable product. The recognition of the difference between this activity and truly valid and useful research is the critical factor.

A danger in developing a program in management is that of depending too much on one's own past practice. Teaching based

on experience is obviously a positive and commendable phenomena, but the missing element is the knowledge that is larger than experience and practice --the ability to extrapolate from that practice those ideas and concepts that are of more universal applicability.²⁴ It is the responsibility of the professional educator to create knowledge that will advance the field rather than to depend upon only that which served us in the past.

- What theoretical bases are most appropriate for extrapolation in library settings? How might we best use these theories or models?
- What competencies are needed in order to teach the content of such a curriculum? How might these efficiently be acquired?
- What integrated software will enhance our capabilities in management? How will this software be used effectively in teaching?
- Should students study failure as well as success in institutions as a source for deriving principles or adjusting practices? How can this process be taught?

24. Helpful to this concept would be the work of Frederick Jacobs and Richard Allen, Editors. Expanding the Missions of Graduate and Professional Education. San Francisco: Jossey-Bass Publishers, 1982.

- What tests and teaching strategies might increase thinking and logical skills in potential decision-makers? How might we use these to advantage in educating our students?

PRODUCT SCENARIO: TECHNICAL, AUTOMATED INFORMATION SCIENCE

One might adopt a third scenario that is totally given over to "technical, automated information science." This would place the focus on product. One must perceive, however, of the product as ideas that are organized in a variety of intelligible systems. Such a focus would combine all of cataloging, information science and reference components into one curriculum. Less emphasis would be placed on basic skills in cataloging except for those few who seek employment with major data bases and/or utilities requiring this competence. Original cataloging problems requiring specialized abilities and solutions would be the foci of these courses. This concept presupposes the distinction between copy cataloging and original cataloging, and the acceptance of an educational mandate to concentrate on the development of original catalogers who will also supervise copy catalogers. Here the stress of the curriculum would be on educating professionals who can design, develop and use systems for the organization of knowledge. Courses that permit the intense use of experiential data as the basis for change would be

introduced. Quasi-experimental research would be designed to reveal the functional use of knowledge by clients. Principles of data base use would be explored while, at the same time, students might have a variety of specific data base searching skills offered in the program. Some courses might be designed to explore the user problems in approaching and using automated systems; others would concern themselves with design and development of documentation for systems. Such a curriculum would also include those courses that explore the nature of information structures such as indexing, abstracting, and data flow analysis, making use of content normally included in information science. The increased need for indexing abilities as well as abstracting competencies should be self-evident. Given the potential of fifth generation computers, course content could include exploration of the "what" and the "how" of principles/rules that might form the baseline for the computerized organization of knowledge. Obviously, the work in artificial intelligence will influence our field and the nature of our involvement in this area must increase. One of the problems is that the major research is not in schools of library and information science, but rather in other parts of the university. We must move out aggressively to seek direct involvement with our academic colleagues working in this research domain to cooperate and indicate what we might offer as well as what we hope to gain in mutual activity.

It is probably in this scenario that one might increase work in preservation and conservation of resources, although this area may ultimately be best approached through a single, highly specialized program such as the model provided at Columbia.

Among the questions to be answered in relation to this curricular analysis are the following:

- Is there a danger in teaching students the advantages/disadvantages of one on-line system over another rather than letting them explore and determine what the factors of significance might be in a decision on selecting an on-line system?
- How does one explore in the classroom the time lag from changes in socially-charged language to library alterations of terminology and why might one do this? Given the potential of contemporary communications may we anticipate a radical shift in our approaches to this problem?
- Will the natural language movement in computer software alter our translations of the organization of knowledge?
- How does one teach the historical valuing of technical standards in high technology industries such as computers and telecommunications, that abhor such standards for competitive reasons?
- Given the movement in analysis of online searching revealed

in Fenichel to Fidel & Soergel what new approaches might we teach and explore with students to address future directions?^{25 26}

- To what extent should we be developing means of acceptance testing for the variety of full scale library systems in our courses?
- To what extent should we extrapolate from failures in automation with our students?
- How do the total technological environment and the study of ergonomics influence library and information science education?
- To what extent should expert-system research be explored as it might effect the classification and cataloging of knowledge?

25. C.H.Fenichel. "The Process of Searching Online Bibliographic Databases: A Review of Research," Library Research Volume 2, No.2 [Summer 1980-81]:107-127.

26. Raya Fidel and Dagobert Soergel. "Factors Affecting Online Bibliographic Retrieval: A Conceptual Framework for Research," Journal of the American Society for Information Science Volume 34, No.3 [May 1983]: 163-180.

SPECIALTY SCENARIO: SCHOOL LIBRARY MEDIA EDUCATION

A fourth scenario concerns the education of school library media specialists. Although my proposal may be unacceptable to many, I would move all educational responsibility for this professional to schools of education. Recognizing that all others who work in schools (including physical education teachers, art and music teachers, school nurses and school psychologists as well as administrators) are educated in schools of education, is it not illogical to isolate school library media specialists as the only members of the educational community exempted from this pattern? It is time to change that and to recognize the need to do so rapidly. The move towards managerial competence for school librarians was revisionary but is no longer viable as an excuse to keep such programs within library schools. Managerial skills can be obtained in schools of education just as easily and perhaps more appropriately.

School librarianship need not start at the graduate level--any more than teaching does--but I insist that growth is dependent upon continued education throughout one's career. Undergraduate preparation for school librarianship is natural and needs encouragement and, as Vandergrift has stated,

The profession might encourage undergraduate schools to offer programs leading to a provisional

certification and then develop graduate programs through which media specialists can not only earn an advanced level of certification but can truly specialize within the field.²⁷

School library media specialists are properly a part of schooling and their allegiance should be primarily in education. I do not perceive this as a statement of lesser quality for this area but rather a recognition of the beginnings of a career path. In fact, there may be parallels for other areas of librarianship as well. It is true, however, that one of the major problems in working such a radical change is the status-driven nature of the profession.

The answers to the questions I would pose in this scenario may be helpful in determining whether these programs are most appropriately offered in library and information schools or in schools of education.

- What traditional library/information science knowledge and skills do school media specialists need to acquire?²⁸
- To what extent should we design programs that include major components in curriculum design and educational theory? If we do include such components, how do we fit these into a

27. Kay E. Vandergrift. "The Making of a School Librarian," American Libraries Volume 9, No. 10 [November 1978]: 606.

28. Additional questions are raised in my article on revision of the standards. Jane Anne Hannigan. "School Media Standards," Library Trends Volume 31, No. 1 [Summer 1982]: 49-63.

comprehensive program for school library media specialists?

- To what extent should we insist that ^{the} teaching of children's literature be within the framework of literary theory and criticism as well as of reading theory? How will we accomplish this in our teaching?
- To what extent should we teach prospective school library media specialists strategies of teaching and how might this be done?
- How might we explore new and creative means to deal with the various search strategies used by elementary and secondary school students?
- What is the nature of media competence for the school library media specialist of tomorrow? How will we meet this need?

Obviously, the school library media specialist is but one of many specializations we will have to sort out and determine places for in the future. It is used as a model since it represents one of the unique areas where somewhat clearer lines may be drawn. Another area that provides an alternative approach within these scenarios or models is that of the rare book field. By definition, this area of librarianship is narrow with a limited range of potential career opportunities. There is no question in my mind that this country only needs one such

program and that students interested in that aspect of librarianship should elect that particular program. Providing a course here and there is a waste of resources and not justifiable. The area of archives and oral history would also fall under the category of specialized and, to some degree, "one of a kind" programs. It is logical to assume that some schools will develop these highly specialized programs, and it should be equally clear that other schools should not try to replicate this activity. We seem to forget that this is one of the most mobile student bodies in history--students will go where the offerings are available. ALA and other associations have a responsibility to identify specializations within schools rather than just providing a pallid list of accredited schools. Without this kind of detailed information, advisement and counseling for potential library and information science students is impossible. Although the grapevine is useful, I do not believe that it is a totally valid or reliable source of information in this marketplace.

Obviously I have not composed scenarios for every aspect of library and information science education. One concern of significance that I have mixed views about is international librarianship. I see this as an aspect of our concern but not as a dominant factor in our educational decisions. Like most highly specialized programs, I would suggest that course work in international librarianship be only at the advanced level of doctoral work with foreign students admitted to masters level

programs and acquiring their first degree in one of the programs described in the other scenarios.

Other library educators would propose very different scenarios for library and information science professionals today, and certainly all of us will need to reconsider alternatives and design new scenarios for the future. If A Nation At Risk has the impact on secondary education that is proposed, all aspects of college and university education will need corresponding alterations. The lifelong learning society espired to in this document will require a new vision and new purposes for the education of information professionals capable of enhancing the learning power of all Americans.

CONCLUSION

Studs Terkel, characterizes his book Working this way:

It is about a search. . .for daily meaning as well as daily bread, for recognition as well as cash, for astonishment rather than torpor, in short, for a sort of life rather than a Monday through Friday sort of dying.²⁹

When asked to write about library and information science education, so many images, ideas and instances came to mind. I sat in my office and thought of all the wealth of abstractions and theoretically-based knowledge about the

29. Studs Terkel. Working. New York: Pantheon, 1974.

profession and, at the same time, I was reminded of the reality of actual job situations, settings and incidents. As I considered these two facets of the profession, I began to see the bombardment of differing images from both my theoretical position and the actual situations involving specific materials and real people as a rapidly revolving kaleidoscope with ever changing patterns. Having tried to hold particular patterns still in order to examine them throughout this paper, I recognized that, as one holds the kaleidoscope up to whatever light is available and rotates it to change the pattern and shadings, new pieces take prominence and whole new shapes come into focus.

One of the primary pieces is certainly that of knowledge and the valuing of intellectual property, that is, the recognition of the power of expression of an idea in whatever medium chosen. Information, ideas and knowledge are not only the foundations of our profession; they are its content as well. They are the bases on which the entire principle of a free education is based, that is, the valuing of the thought process of each individual. This presupposes the right of unrestricted access to all information and ideas, which is the basic medium in which individual thought and a literate society develops and grows. It is the information professionals whom we educate who help to make possible the kind of thoughtful, informed citizenry that will demand and participate in life-long learning opportunities.

Another prime component in our kaleidoscope is commitment. We are committed to people and to knowledge, to ideas and intellectual freedom, to information and to the rights of all human beings to that information which keeps us and our profession alive. Equally we are committed to the preservation and the sharing of all forms of aesthetic compositions that bring joy and wonder to others and help keep our work from becoming another of those "Monday through Friday sorts of dying." The commitment that comes with those entering professional education must grow as they participate in a critical examination of ideas and alternative points of view in relation to practice.

A third component in our professional kaleidoscope is that of decision-making. Librarians and other information professionals first need to know but then they also need to act. If our commitment is to be realized in service, we must be competent in our management of libraries and information agencies. This presupposes the acquisition of necessary skills through repeated exposure to problem solving situations, wherein one is asked to weigh alternatives and to provide a rationale for a suggested behavior. If all one wants is the acquisition of information and skills, there are certainly far more efficient means of acquiring that information than I and most of my colleagues in teaching are able to supply. What human beings who are teachers can do, however, is to help students sort out, select, massage and deal with all the information bombarding them

from the media and other instructional sources and to use that information in increasingly competent decision-making. In essence then, what professional education values more than the simple acquisition of knowledge is the development of the kind of critical ability which enables students to consider, question and analyze existing information and ideas in the process of developing their own new and innovative contributions. The research environment of which they should be a part is one of constant questioning, one which will encourage them to contribute to the practice of our profession in order to enhance it or even to astonish it.

There is the responsibility in graduate education for students to recognize and expand their own personal potential. To work to capacity and to increase service is a constantly changing demand because the world itself, therefore the knowledge on which the profession is grounded and the people we serve, are constantly changing.

Like the child, I have taken apart the kaleidoscope and now I will make it whole again. Each of us, thinking and caring educators and human beings, must acknowledge our commitment to our profession as a most prized possession, recognizing our responsibilities and admitting that, in a different time and in a different place, various pieces of the kaleidoscope will take prominence. We also recognize that the patterns emerge when pieces move together in harmony. May each of us pick up the

kaleidoscope and joyfully explore the profession without fear but with a sureness that we are doing a wondrous thing--we are exercising our own potential as thinking, caring library educators. All of us acting together in this process become the very essence of our profession--one that will bring each of us, in the words of Studs Terkel, meaning, recognition, astonishment, in short--a life!

Columbia University

New York, New York

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